Volunteer Firemen

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William O. Klemm

Volunteer firemen were helpless due to lack of water facilities when fire destroyed this century-old frame dwelling in historic Arlington, Virginia. Fire companies were forced to stretch a hose line more than half a mile to reach a water supply.

Over 31,500 Attend Fire Schools

All-Time Attendance Record at 433 Firemen's Training Schools Held During 1936 May Be Exceeded in 1937

FIREMEN in 1936 went to school in greater numbers than ever before. More than 31,500 firemen are known to have received instruction at a total of 433 state, regional, or zone schools. In addition, travelling instructors in a number of the states visited local departments and gave instruction to probably 15,000 more men. These figures do not include the drill schools operated by individual fire departments for their own members. The schools reported here are those which have been organized to provide primarily for the volunteer and part-paid fire departments.

Practically all reports received indicate that volunteer firemen are enthusiastic over the training programs. They are not willing to be ridiculed for not knowing how to handle their equipment or how to fight a fire. They want to know of modern developments in the business of fire fighting.

Subjects taught at most schools included proper methods of handling equipment, instruction on fire hazards and fire prevention, and the proper way in which various types of fires should be handled and what equipment should be used. Other schools consisted of classes for vocational education in which firemen were given instruction

Thirty thousand persons attended the public demonstration in the Tacoma stadium on the last night of the Annual Washington State Fire School at Tacoma on June 27.

in mathematics or general science as related to the work of fire fighting.

There were only eight states in which no schools were held, or at least none were reported. In several cases firemen from these states attended schools in adjoining states.

The fire schools held varied in type in the various states and provinces. In 23 states and one Canadian province annual state schools were held with men from the entire state or province attending. A total of 5,052 men were registered at these 24 schools, making an average attendance of about 220 men per school. In some cases the state school has the advantage of obtaining for instructors experts who are not available to a large number of local schools which have a smaller attendance. In many places the state schools have become centers of advanced training for men who have completed regional training courses.

Regional schools and zone schools are increasing in number as thousands of firemen who are unable to attend a state school want instruction. Sessions are usually held on week-ends or at other times which will not cause loss of time from the volunteer's regular work. There were at least 409 such schools in the United States and Canada last year with 26,025 firemen registered, or an average of 64 men per school. Regional schools are often similar to state schools, but usually reach a smaller territory. In a number of states the zone school system is followed. A standard training program is adopted for the state and is taught at schools located in each section of the state by instructors or drillmasters who have qualified at a state instructors' conference. In some cases zone schools have classes for both initial and advanced training. Eight states held instructors' conferences in 1936, and officers' training classes were held in three states.

In addition to the various types of schools mentioned, a number of states and one province have travelling instructors who give instruction to every fire department in their state. In some cases these men are employed by the fire marshal's office or state department of education, others are supported by state firemen's associations, and others by fire insurance organizations. Arizona, California, Ohio, Ontario, Texas, Washington and West Virginia had this desirable form of instruction.

Agencies sponsoring fire schools or co-operating to make them possible are state firemen's associations, fire chiefs' associations, county or regional firemen's organizations, state and provincial fire marshals, insurance inspection departments, state colleges and universities, the Fire Service Extension Committee of the U. S. Chamber of Commerce Fire Waste Council, state leagues of municipalities, and similar organizations interested in increasing the efficiency of firemen. Special commendation is due to the departments of vocational and industrial education in the various states for their work in training instructors in teaching methods and many other details.

Plans for 1937 schools are not complete in many states, but great impetus is expected to be given to the fire school movement by an act passed in the last session of the United States Congress appropriating money for vocational education, a part of which may be used for firemen's training purposes. This money must be matched equally by the states. Every fire department should take advantage of a training program and get behind the fire school movement. The following summary lists fire schools held in 1936, and gives an indication of the type of training which will be available this year.

Alabama. An instructors' course was held at Birmingham September 8-16. Men from eight cities received training as instructors.

Alberta. Meetings of volunteer firemen were held at Lacombe, with 50 in attendance; Vermilion, with 100 in attendance; Fort Saskatchewan, with 25 in attendance; and at Beverly. These meetings included addresses and discussions of fire fighting and fire prevention.

Arizona. Two travelling instructors employed by the state hold a two weeks' course in each fire department. In volunteer departments instruction is given for three hours each evening except

Firemen stunting at the tops of two aerial ladders during a demonstration at one of last year's fire schools.

Saturday and Sunday. Motion pictures and slides are used to illustrate points discussed. Nearly every fire department in the state has been covered in three years. A follow-up program is now being developed.

British Columbia. Five fire schools were held during the year by the Fire Chiefs' Association, of which two, one at Duncan in the Spring and the other at Ladysmith in the Fall, were held on Vancouver Island. On the mainland schools were held at Abbotsford in the Spring and the University of B. C. in the Fall. A school for the entire Province was held at Chilliwack on the mainland in midsummer with 65 in attendance—the average attendance at the other four schools being 45.

California. A full-time instructor is employed by the State Department of Education, State Division of Fire Safety, and the State Fire Marshal. During the past school year from July 1935 to June 1936 officers' conferences were held at North Sacramento, Santa Rose and Santa Paula with a total attendance of 80 or an average attendance of 27. Instructors conferences were held at Fullerton, Martinez, San Bernardino and the University of Southern California at Los Angeles with an average attendance of 38 and a total attendance of 145. Training schools for firemen were held in 23 cities with an average attendance of 14 and a total attendance of 323.

Colorado. The Colorado State Firemen's Association held the Sixth Annual Fire College at Manitou Springs on June 22-23 with an attendance of 184 men. This preceded a convention held on June 24-25.

M. R. Colwell

Special drill building of the Phoenix, Arizona, Fire Department which was recently erected to supplement the regular drill tower. Smoke helmet instruction and drills are carried out here. In the right hand section, the principles of ventilation of buildings during fires can be demonstrated on a large scale.

The traveling field laboratories of the Underwriters' Laboratories visited several fire schools. Laboratory engineers showed how tests are made to determine fire resistance and other qualities of products carrying Underwriters' labels.

Connecticut. A training course for drillmasters was held at Hartford on October 26-31. Nineteen drillmasters from various parts of the state received instruction as preparation for regional drill schools to be held in 1937.

Delaware. A four-year training program has been started. Twelve lessons are given each year. Sixteen groups were organized throughout the state with a total enrollment of 341 men. In addition, 275 other firemen joined in the demonstration conferences.

Florida. The Seventh Annual Florida Fire College was held at Daytona Beach, July 13-16, with 154 men present. The college was the most successful yet held. The Florida State Board for Vocational Education held classes in mathematics for firemen at Jacksonville and Miami. A total of 282 men received a total of 804 hours of instruction in these classes.

Georgia. The Second Georgia State Fire College was held May 6-8, under the auspices of the State Chiefs' Club, with an attendance of 435 men representing 71 cities and 10 states. The Fire College will be held again next May. The State Department of Education conducted officers' classes in Atlanta and Savannah with a total of 84 officers attending.

Idaho. No fire school was held in Idaho but several chiefs and firemen attended the school in Tacoma, Washington.

Illinois. The Twelfth Annual Fire College was held June 9-12 at the University of Illinois at Urbana with an enrollment of 453 persons from 7 states and 130 communities. It is interesting to note that there were 12 men registered from industrial fire brigades. It is estimated that over 50 per cent of the 6700 volunteer firemen in the state attended one or more regional schools during the year.

Indiana. The Third Annual Indiana State Fire School was held at Purdue University, West Lafayette, on October 27-28 with 366 in attendance. Regional fire schools were held from March to November in 138 cities and towns with a total attendance of approximately 3,500.

Iowa. The Twelfth Annual Iowa State Fire College was held at Ames on May 26-29 with 325 men present from 83 cities and towns. District fire schools were held at Atlantic, Burlington, Carroll, Storm Lake and Waterloo with a total attendance of 470 men from 98 departments.

Kansas. The First State Fire College was held at the University of Kansas in Lawrence on October 26-29 with 75 firemen in attendance. Four fire chiefs' conferences, in which current problems were analyzed, were held during the summer.

Kentucky. Ninety-two firemen from 39 departments attended the Second Annual Training School for Firemen

Training in the use of gas masks was given firemen at many fire schools held throughout the United States and Canada during 1936.

held June 16-18 at the University of Kentucky at Lexington. A two-day school for firemen of western Kentucky was held at Madisonville, September 23-24 with 60 men from 16 cities attending.

Louisiana. The Sixth Annual Fire School was held in April with 73 men from 33 cities attending. In a new program the state was divided into 11 districts with an average of 12 departments in each district. Each department sends at least one man for a week's training consisting of three hours instruction a night. These men act as drillmasters of their respective departments. Where instruction is given to a minimum of six men for at least 60 hours a year in any community, a reduction of $.05 per $100 on insurance written on commercial buildings is given by the Louisiana Rating and Fire Prevention Bureau. Instruction must be given in conformity with the manual of the Louisiana State Firemen's Association.

Maryland. The Seventh Annual Maryland Fire College was held September 1-3 at the University of Maryland in College Park with 250 firemen representing 61 Maryland departments and 4 outside departments attending.

Massachusetts. Zone training schools were conducted in the Spring at the following eight centers with 206 men from 68 departments in attendance: Arlington, Attleboro, Brookline, Chatham, Needham, Pittsfield, Springfield and Worcester. Fall sessions were held at Arlington, Brockton, Brookline, Hyannis, and Worcester, with 129 men from 51 departments enrolled. It is planned to reopen all zone schools in the Spring. The Massachusetts Fire Department Instructors' Association has adopted a program for their monthly meetings, covering both teaching methods and special problems of fire fighting.

Michigan. The Eighth Annual State Fire College was held at Alpena. More than 100 certificates of firemanship were issued. In addition to the state school, two regional schools were held. About 100 men attended each school.

Minnesota. The Ninth Annual Northwest Fire School was held at the University of Minnesota in Minneapolis, August 10-14. There were 210 men in attendance. Nineteen regional fire schools held in various parts of the state had a total attendance of more than 5,000 firemen or an average of more than 250 for each school.

Nevada. A part-time class was held in Reno with 36 firemen enrolled. An officers' conference was conducted in Reno by the California Department of Education on June 12 with 40 men attending.

New Jersey. A class for volunteer firemen was conducted by the Morris County Fire School Association at Denville with 25 firemen enrolled for the course which lasted 26 weeks. An instructors' training course was started at Mountain Lakes September 29 with 22 men enrolled. The Fire School for Officers held each year in South Jersey was held in Salem County with 15 departments represented by 85 men. The classes are held once each week for 45 weeks. Graduates act as instructors for local departments.

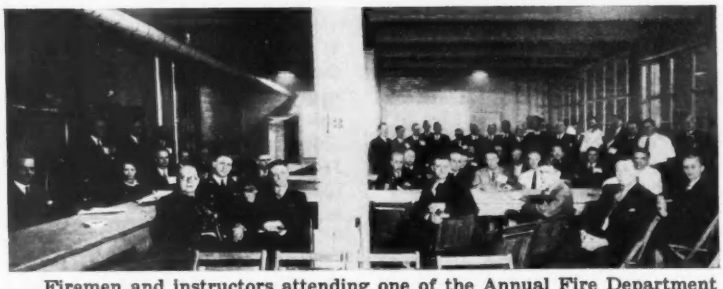
New Mexico. The Seventh Annual Fire School was held at Albuquerque May 11-13 with 210 men in attendance.

New York. Seventeen municipal zone fire training schools were held. The zone centers are: Buffalo, Rochester, Utica, Syracuse, Mount Vernon, Ithaca, Binghamton, Watertown, White Plains, Ogdensburg, Albany, Troy, Nassau County, Gloversville, Poughkeepsie, Yonkers and New Rochelle. A training program for instructors of zone schools was held in Albany on May 18-22 with 28 instructors from 17 fire departments present.

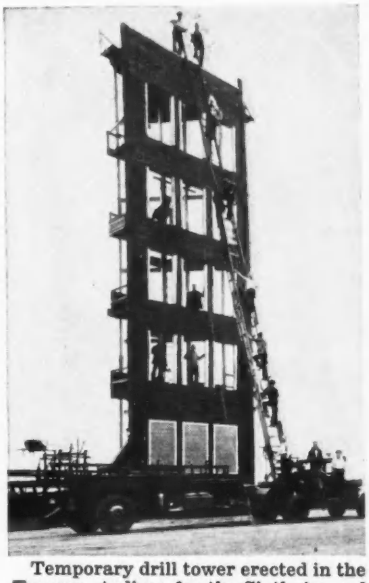
North Carolina. The Eighth Session of the North Carolina Fire College and Drill School was held in Wilmington, April 21-23, with 280 men from 81 fire departments enrolled.

North Dakota. Two-day regional fire schools were held in July at Mandan with 16 departments represented by 104 men, at Minot with 20 departments represented by 107 men, at Devils Lake with 22 departments represented by 131 men, and Valley City with 17 departments represented by 107 men—making a total of 75 departments and 449 men attending.

Ohio. The Advanced Fire School was held at the Ohio State University at Columbus, May 19-22, with a regis-



Firemen and instructors attending one of the Annual Fire Department Instructors' Conferences sponsored by the Fire Prevention Department of the Western Actuarial Bureau. The 1937 conference will be held in Memphis, Tennessee, the week of January 4.



Temporary drill tower erected in the Tacoma stadium for the Sixth Annual Washington State Fire School held June 25-27, 1936.

tration of 126 men. Regional schools were held at Canton, July 7-8, with 2448 persons registered; at Painesville, August 7-8, with about 40 men from 10 departments at each session; at Lancaster, August 10-11, with 65 men from 15 towns the first day and 50 men from 10 towns the second day; and at Cheviot, August 26-27, with 292 men registered. In addition, individual and group town fire department instruction was given by the Ohio Inspection Bureau instructor to 757 firemen in 29 classes.

Oklahoma. The Third Annual Short Course was held at Stillwater, March 30-April 2, with 31 men representing 17 cities present. During the year three-day schools of drill evolutions were held in 13 cities with 197 attending. Evening classes in mathematics and elementary science as related to the fire service were held in 14 cities from July 1, 1935, to June 30, 1936, with 147 men completing courses. Five-day schools to analyze the fireman's job and determine better methods of firemanship were held in eight cities with 116 in attendance. Two teachers' training groups were held with a total of 25 in attendance.

Ontario. No fire schools were held during 1936. However, the Fire Marshal's Office has a travelling inspector who visits all cities of over 5000 population in the Province every two years. He gave instructional addresses to over 1000 firemen in 1936.

Oregon. The Annual Fire School was held at Marshfield, June 25-27. Plans are being made for zone training schools to be held throughout the state. The First Fire Instructors' Training School was held at Salem, October 26-30, with 10 firemen attending.

Pennsylvania. Instructor training classes were held during the 1935-36 season in ten counties with 200 men enrolled. Instruction was given to 1329 members of local fire departments in 40 classes held in various districts by trained instructors.

Rhode Island. Sixteen firemen from 8 departments began a five weeks' course at the Woonsocket drill school starting in September. A more complete drill program is planned for the Spring of 1937.

South Carolina. The Second Annual Fire College was held in Columbia, May 18-20, with 89 men in attendance.

South Dakota. The Seventh Annual Fire School was held at Brookings, June 22-26, with 500 firemen in attendance. An interesting point in connection with this school was the large cash prizes given to the companies best performing the various drill evolutions. The 1937 school is to be held in Pierre probably in May.

Tennessee. A regional fire school was held at Pulaski, April 8-9, with 9 towns and 40 firemen in attendance.

Texas. The Seventh Annual School was held at the Agricultural and Mechanical College of Texas at College Station, July 13-17, with 472 men representing 200 cities. About half of the men took the advanced course. The state field instructor visits a different town each day and conducts drills each night. From June 17, 1935, to June 9, 1936, 241 drills were conducted with 7138 firemen in attendance.

R. B. Criswell

Church or flagpole raise with extension ladder demonstrated at one of the regional fire schools in Ohio.

Learning the proper way to slide down a life line and other rescue work was part of the program at the Sixth Annual Fire School at Morgantown, West Virginia.

Utah. Training schools for firemen were held at 24 locations with 369 men participating. Instruction was designed to meet the most important needs as determined from preliminary visits to the departments where drills were to be held. An enlarged program is planned for next year.

Vermont. A fire school was held at Bennington, July 18-19, with 57 firemen from 9 departments attending.

Virginia. Fire schools were held in 24 zones or districts. The centers are Alexandria, Arlington, Bristol, Cape Charles, Clifton Forge, Danville, Henrico, Hopewell, Lawrenceville, Lynchburg, Newport News, Norfolk, Orange, Petersburg, Portsmouth, Pulaski, Richmond, Roanoke, Staunton, Suffolk and Winchester. In August, instructors from each of these districts attended the Fourth Virginia Fire Instructors' Training School at Richmond. This was a graduate course which followed a standard three-year fire training course.

Washington. The Sixth Annual Fire School was held in Tacoma, June 25-27, with more than 500 in attendance. In addition to the fire school, the

State Firemen's Association employed an instructor who visited every fire department in the state at least once during the year. This work is to be continued by the State Fire Marshal.

West Virginia. The Sixth Annual State Fire Service Extension School was held at Morgantown, July 27-30, with 141 men from 84 fire departments present. A five-day class was held at Huntington with 87 members of that department attending. One-day classes were held at Thomas, Marlinton, Hinton, Grafton, Moundsville and Terra Alta with a total enrollment of 108 men. Two-day regional schools were held at Wheeling with 111 firemen, at Charleston with 93 men, at Bluefield with 75 men, at Weston with 71 men, and at Parsons with 38 men attending. Firemen's training classes were held one evening each week for 15 weeks at Morgantown, Parsons, Salem, and Weston with 145 men enrolled. In addition, individual and group town fire department instruction was given by the Inspection Bureau instructor to 134 firemen attending seven classes.

Wisconsin. A one-day firemen's training school was held at Stevens Point with 75 firemen in attendance. No other schools were held due to lack of appropriations.

Wyoming. The Annual Fire School was held at Thermopolis on June 15, preceding a two-day State Firemen's Convention. Approximately 150 were in attendance. The 1937 school is to be held at Evanston.

△ △ △ △ △

Discussion Subjects

51

Q. What sort of record should be kept of each length of fire hose?

A. A complete history from the time it is purchased until it is discarded should be kept of each length. The suggested record form shown on page 7 indicates the important information.

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Q. What policy should the fire department adopt for the safety of its men where fire operations require the handling of electric power wires?

A. On page 8 a safety director of a light and power company gives some good suggestions on how firemen may handle electric wires with safety.

Rivers Offer Protection, but May Also Present Oil Hazards

OIL, being lighter than water, floats on the surface of rivers, and when it is ignited the resulting fire spreads rapidly. Most large cities and many small towns are located on the banks of rivers or other bodies of water and waste oil or oil leaking from tanks often finds its way to the water. Industries in any city or town located on a river should never be allowed to discharge waste oil or gasoline into sewers or rivers.

A typical recent example of a river fire occurred a few months ago in Cleveland, Ohio (See picture above). A steam freighter tied up at the bank of the Cuyahoga River was being dismantled when sparks from an acetylene torch used in cutting away steel plate fell into the river and ignited the oil on its surface. Fortunately there was no current or wind and the water did not carry the burning oil. The fire, however, spread rapidly over the oil-covered water before the fire department arrived.

No fire boats were available, but the fire department arrested the spread of the fire by surrounding it with a curtain of water from ten hose streams. After it was thus confined, it was smothered by the use of one-half ton of foam. The potential fire hazard of the river has long been recognized, and the fire department was prepared with a supply of foam chemicals.

Fire carried down rivers endangers bridges and all combustible property along the water's edge, and it is necessary for fire departments to plan beforehand just how they would attack a fire in any property along the river.

While every small town on a river may not need a fireboat, cities and towns having valuable waterfront property which may be difficult to reach for fire fighting except from the water side certainly need a fireboat. Streams from turret nozzles or hose lines from a fireboat may not be able to reach fires under a pier deck. A small gasoline-driven motor boat equipped with a pump is desirable to handle such fires.

Problem Questions
FOR JANUARY

Suggested for discussion at company and department meetings this month

53

What are the possibilities of fires in the local hospital or institution, and what can the fire department do to safeguard the lives of the occupants should a fire occur?

54

Demonstrate a salvage cover fold that is easy to make and use by two men.

Watch for the answers in the next issue of VOLUNTEER FIREMEN

Size	Identification No. of Length	FIRE DEPARTMENT HOSE RECORD		
Kind	Brand	Cost per foot	Date of Purchase	
Manufacturer	Vendor	Guarantee		

Date in Service	Co. No.	Length Tested			Out of Service		Couplings	Remarks
		Date	Pressure	O.K. or Failure	Date	Reason		

Headings continued on back side.

What to Know About Each Length of Hose

Suggested Card Provides a Handy Method for Keeping Complete History and Performance Record of Fire Hose

A POLITICIAN seeking re-election to public office generally asks the voters to support him "on his record" —and his performance record is available. But when a fire hose salesman asks city and town authorities to purchase his brand of hose, does the fire chief have records to which he can refer and find out exactly what experience he had with an order of this particular brand received some years before? A hose record is one of the most important office records kept by fire departments and gives a reliable basis for determining which brands are the most reliable and most economical to buy the next time an order is to be placed.

Expensive as fire hose is, some fire departments do not keep a record of the service they get out of it. Most departments, however, keep track of the condition of each length they purchase. At any time they can look up the record and see when and from whom it was purchased, how much it cost, how long it has been in service, when it was tested, when and why it failed during a test or at a fire, and other information which shows whether or not the hose is standing up as it should.

The form illustrated on this page is suggested for recording hose information. It may be printed on light weight cardboard or a stiff grade of paper 8 inches wide and 5 inches high (the one shown has been reduced in size to fit the page of this magazine). One card is made out for each length of hose at the time it is purchased.

Instead of going to the expense of printing up a batch of these cards, smaller fire departments may copy the headings in pen and ink at the top of each page in a ledger book which has horizontal rulings. Or, if it is preferred, the headings may be printed in book form instead of on cards. The important thing is *what* information is recorded and not *how* it is recorded.

Each length of hose should be given a number at the time it is received so that it will have an identification mark for record-keeping purposes. The space marked "Kind" calls for the words (or abbreviation of) "cotton rubber-lined", "rubber", or "unlined linen", and also whether it is single, double, or triple jacketed.

The column headings call for an entry being made every time a length is put in service in a company or taken out of service, every time a pressure test is made, and every time repairs are made or couplings are changed. Many departments make pressure tests at about 200 lbs. of each length every spring to make sure that it can be relied upon and will not burst when used at fires. The cards should be grouped by size of hose and filed in order of the identification numbers.

This picture clearly shows what happens when sparks from chimneys land on roofs. The house on the right had a wooden shingle roof before the fire which caused a loss to building and contents of $1560. The house at the left is covered with asphalt shingles. It was subjected to the same chimney sparks, and in addition was severely exposed to the heat and flames of the house on the right. The only damage to this fire-retardant roofing was a slight melting from the severe heat causing a loss of $80.

Handling Live Wires With Gloves and Tools

JAMES G. BLUNT, Safety Director of the Houston (Texas) Lighting and Power Company, issues the following warning on the danger of inexperienced firemen handling electric wires.

"Work with electrically charged wires is not unduly hazardous providing the work is done by *trained men with proper tools and under normal controlled conditions.*

"Electric utilities or other large organizations do not even consider assigning a workman to 'hot line work' until he has served an apprenticeship under close supervision of old experienced foremen, and only experienced men who have proven that they are above the average in their ability to think quickly and clearly are given the jobs of working on trouble cases.

"Rubber goods such as gloves, blankets, and line hose, in common use by most utilities are tested by manufacturers at 14,000 volts and are recommended by them for use on voltages up to 10,000, but the usual rule in the field is to *never depend on rubber for protection on voltages above 5,000.* I have seen linemen on a pole discard as many as five pairs of rubber gloves while working on 2,300-volt lines. These gloves became temporarily defective because of moisture.

"Firemen, both paid and volunteer, should be exceedingly cautious when working around all wires. Accidents resulting from the fire they are fighting may cause otherwise harmless wires to become charged. When working from roofs of adjoining buildings, ladders, or fire escapes, firemen can easily come dangerously close to live wires, and under no conditions should an attempt be made to clear such wires by cutting with axes or other fire fighting equipment.

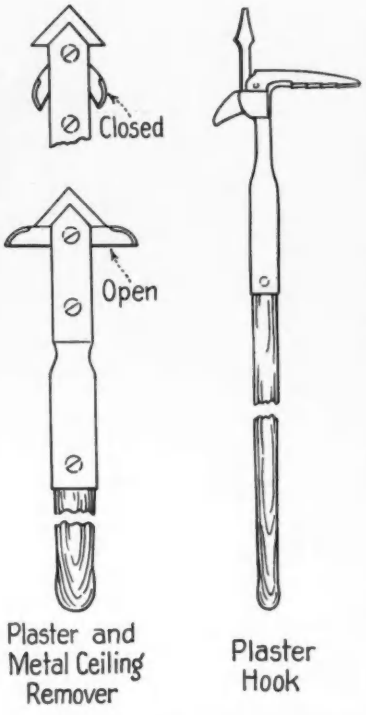
"A charged wire lying loose at one end can become as temperamental as a charged 2½-in. hose line under the same conditions and with the added danger that you dare not touch it.

"Tools which would be considered adequate for this type of work by any utility would be worse than useless in the hands of electrically untrained firemen. They would be especially dangerous under the conditions of fighting fire with water or chemicals.

"It is unsafe to recommend that any fireman be permitted to cut or otherwise handle live wires. Exceptions, of course, could be made in cases where the men have worked for or have been trained by electric utilities in this work.

"The most satisfactory plan is to make previous arrangements whereby utility service men or crews are called whenever firemen are, or are liable to be, working near power lines."

Fire Tools



Plaster and Ceiling Removers

WHEN necessary in fire fighting operations to break holes in plaster walls and ceilings or remove metal ceilings, the use of a special tool speeds up the work. Two types are illustrated above. Ordinary pike poles are also used for this kind of work. Handles are usually six or eight feet long.

The plaster and metal ceiling remover is shown in both closed and open positions. The two knife blades close when the tool is driven into the ceiling or plaster to be removed. They open automatically as the tool is withdrawn —tearing away the obstructions. The other type of plaster hook shown has a smaller spear-head but larger hook.

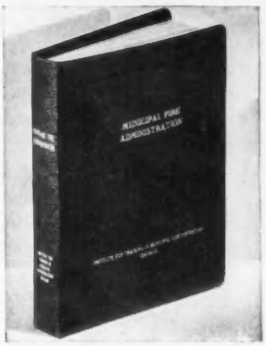
Furniture and other valuable objects may be removed or covered to prevent damage by falling plaster. When working on ceilings, a fireman may prevent personal injury from falling materials by turning the tool after it has pierced the ceiling and working the tool away from his body instead of pulling it toward him.

If you are a fire commissioner, city manager, fire chief or fire department officer, or if you hold any other administrative position in your local government, or aspire to such position—

KEEP AHEAD OF YOUR JOB

by enrolling in a Practical Correspondence Course in

FIRE ADMINISTRATION



A 600-page volume comes with the course and contains material never before found in print.

WHILE sponsored by city managers as a part of the in-service training program of their profession, here is a course which has a value to everyone who has anything to do with the direction or operation of a fire department. The problems of volunteer and part-paid fire departments, including such typical ones as those of equipment, rural water supplies, mutual aid and county organization are given equal attention with problems of the larger city fire department. Available nowhere else is the data included from more than 200 cities covering fire department personnel, stations, insurance costs and fire losses. The nominal fee of $25 for the course covers the above text (which the student may keep), the course of lessons, and personal review and correction of lesson papers.

Outline of Course in FIRE ADMINISTRATION

The Municipal Fire Problem.
Fire Insurance Classification of Cities.
Organization for Fire Protection.
Personnel Administration.
Water Supply for Fire Service.
Department Buildings and Equipment.
Distribution of Equipment and Personnel.
Fire Alarm Signaling Systems.
The Technique of Fire Fighting.
Legal Aspects of Fire Prevention.
Work of Municipal and State Fire Prevention Agencies.
Fire Investigation and Incendiarism.
Records and Measurement of Results.

Institute for Training in Municipal Administration
850 East 58th St., Chicago, Ill.

Please send me particulars and application form for the Course in Fire Administration. This does not obligate me to take the course.

Name .....

Address .....

(VF137) .....

International News

One view of the fire from an abandoned entrance of the 52-year-old coal mine fire near New Straitsville, Ohio.

Coal Mine Fire Started in 1884 Still Burning in Ohio Territory

COAL mine fires believed to have been started by disgruntled miners have been burning for 52 years in 18 square miles of territory in Hocking and Perry Counties, Ohio. Approximately 21,000,000 tons of coal have already been destroyed, and the Bureau of Mines at the Ohio State University estimates that the fire will continue to burn for a century.

The fire perpetuates itself by the ground caving in over a burned area and making openings in the earth which admit more air to the fire. As the fire proceeds southward and the vein of coal becomes deeper in the ground, it will become more difficult for the fire to get air, and it is believed it will gradually burn itself out.

Fires break out above ground from time to time through fissures, cave-ins, and abandoned openings—starting many small brush fires. This seems to constitute the greatest hazard at the present time. A few buildings have been lost, and at the outset of the fire the town of Old Straitsville was abandoned. Outlying residences in New Straitsville (2000 population) are subject to fire. The basement of the town's school building is practically on top of one of the burning veins of coal. To guard the school against fire, a trench has been dug around the school lot (through the vein) and a concrete barrier poured to turn the fire aside. The congested district of the town seems to be reasonably safe.

Many attempts have been made by coal companies and by the state to extinguish the fire. For three years the state pumped water into a shaft mine which was involved, but made no impression on the fire. WPA workers are now combatting this fire by closing up abandoned entries to cut off the air supply. Since there are about ten or twelve thousand of these openings still open, there is much work to be done before it can be determined whether or not any real progress is being made to extinguish the fire.

Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Massachusetts, U.S.A.

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More Firemen Go to School Every Year The fire school idea continues to spread. In 1936 there were 433 schools held in the United States and Canada, as compared with 350 in 1935 and 300 in 1934. In other words, approximately 25 percent more schools were held last year than the year before.

The total attendance has not increased in this same proportion because of the decided trend toward a larger number of smaller schools. In general, the plan is to use the state-wide school for advanced training, and to reach the smaller fire departments with basic training through the smaller or regional schools, making it easier for volunteer firemen to attend.

We thank our many friends for their cooperation in supplying us with the data and photographs which have made possible the summary of fire schools appearing in this issue. We would appreciate being advised of any errors or omissions in this summary.

Water Scarce, Use It Over and Over A typical example of the resourcefulness of volunteer fire departments in overcoming the difficulties they often encounter recently came to our attention when the Dunn, North Carolina, Fire Department (Member N.F.P.A.) answered an alarm taking them to a house which was over 1500 feet from the nearest hydrant. The fire was too serious for the booster line, and to stretch a hose that distance would take too much time.

Noticing a stream with running water near the house, the assistant chief had it dammed up so that the pumper could take suction. Water being scarce, he cut a draining ditch from the house back to the stream, making it possible to use the water over and over again. As fast as the engine pumped water on the house, the water drained back into the stream. The fire was soon extinguished.

Sell Fire Prevention Through Newspapers Chief Frank Zeller of the Terra Alta Fire Department (Member N.F.P.A.), Terra Alta, West Virginia, reports that using information on fire hazards and how to prevent them which appears each month in VOLUNTEER FIREMEN as a basis for articles in the local newspaper is a regular practice with him. He takes ideas and facts from the magazine and writes a story around them—drawing upon his own experience in fighting fires and his knowledge of local fire hazards. Clippings from the weekly newspaper in Terra Alta which Chief Zeller has sent us indicate that he does a good job of it.

Fire Marshal Den. Lahey of the Waterbury, Connecticut, Fire Department at the close of each year runs a summary of all fires in the local newspaper. Starting with an explosion in an automobile spring company at the beginning of the 1936 "fire year" and ending the year with a mattress fire in an apartment, this full-page chronology should impress the citizens with the seriousness of the fire hazard and the good work the department is doing. Now that Fire Marshal Lahey's chronology has been published, he and Chief Thomas J. Lynch are busy preparing the annual report of the department for presentation to the mayor.

These two methods of selling fire prevention through the newspapers are typical of many departments, and are excellent ways of keeping the people of the community informed on what the department is doing and at the same time teaching them how to prevent fires in their own property.

More Ways of Putting Out Chimney Fires After reading the article, "Extinguishing Chimney Fires" in the December VOLUNTEER FIREMEN, Chief J. J. Parker of the Derby Line (Vermont) Fire Company writes the editors about his experience with chimney fires. We are always pleased to receive comments from our readers relative to any article in the magazine. The following interesting paragraphs are taken from Chief Parker's letter.

"We have found that where wood is burned in furnaces and stoves there is bound to be a lot of glazed creosote in chimneys and pipes. Ordinary dry-cell batteries which I procure from the telephone company, if burned in the furnace or stove will soften this creosote and it will become detached from the chimney and fall into the clean-out.

"In addition to sulphur, fusees, and hand fire extinguishers, we use a special pipe about 20 inches long with a crook at one end. There is a hole about the size of a darning needle at the end. The other end is attached to a regular size garden hose. With the pressure we have in this village, this arrangement will throw a small stream 30 feet. The stream breaks into a spray at about eight feet, and in coming in contact with heat, vaporizes and smothers the chimney blaze.

"We also have old tire chains fastened together which we drop from the top of a chimney to clean off burning creosote."

New Members and Renewals Last month seven departments with 128 men enrolled in the Volunteer Firemen's Section of the National Fire Protection Association for the first time. In addition, 28 departments with a total of 628 men renewed their memberships. The seven new companies or departments that enrolled last month are listed below.

Mount Shasta Fire Department, Mount Shasta, California.

Yorkville Volunteer Fire Company, Yorkville, Illinois.

Silver Spring Volunteer Fire Department, Silver Spring, Maryland.

Mount Tabor Volunteer Fire Department, Mount Tabor, New Jersey.

Verona Fire Department, Hose Company No. 2, Vernon, New Jersey.

Bureau of Fire Prevention, Peekskill, New York.

Williams Lake Volunteer Fire Department, Williams Lake, British Columbia.

WILL IT BE THIS OR THIS ?

THE FIRST FIVE MINUTES WILL TELL . . .

The picture at the right shows firemen fighting a stubborn blaze recently in a large plant near New York. This fire, like most fires, started small—yet hours of fighting and hundreds of tons of water were required to bring it under control. Why? Because no one happened to be near where the fire started *when* it started . . . or in two words, BELATED DISCOVERY.

The picture at the left represents a fire at a large St. Louis hospital on July 15. This fire started at night in a storage room in an infrequently visited part of the basement. Here, also, there was no human being nearby to discover it—yet this fire was put out by the fire department with only a chemical hand extinguisher, with total damage estimated at less than $5.00. Why? Because it was DISCOVERED AUTOMATICALLY, WHEN IT STARTED, BY THE A. D. T. AERO AUTOMATIC FIRE ALARM.

Aero *automatically* detects fire when it starts, *automatically* summons the fire department direct to the scene. Thus, by saving those *critical first few minutes*, Aero keeps losses to the minimum.

The efficiency of Aero is proved by its record. During the past ten years fire losses in Aero protected properties have averaged less than three cents per hundred dollars of insurable values.

A. D. T. Fire Protection Services

"AERO" AUTOMATIC FIRE ALARM : : SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE : : WATCHMAN SUPERVISORY AND MANUAL FIRE ALARM SERVICE

Descriptive booklets will be sent upon request.

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A NATION-WIDE PROTECTION SERVICE
AGAINST FIRE, BURGLARY AND HOLDUP

A.D.T.

OPPORTUNITY FOR VOLUNTEER FIREMEN

In many localities in the United States we have openings for Fyr-Fyter Dealers which should be appealing to Volunteer Firemen because of their particular interest in fire fighting and Community Safety. Fyr-Fyter Dealers are (at the present time) earning more money than many merchants and manufacturers in their territories who have thousands of dollars invested in stock and are obligated to a regular weekly or monthly overhead covering rent, help, light, heat, etc.

If you are interested in creating a business for yourself (without the usual expense of such an undertaking), write to us. If your territory has no Fyr-Fyter Dealer or our representation is inadequate, we will be pleased to present to you our sales plans which enable you to become an independent merchant in your territory.

When writing, give fully your past business experiences and address your letter to

THE FYR-FYTER COMPANY
Dept. 20-13 DAYTON, OHIO

Membership Plan

VOLUNTEER FIREMEN'S SECTION
NATIONAL FIRE PROTECTION ASSOCIATION

WHERE twenty or more firemen in a volunteer company or department affiliate with the Volunteer Firemen's Section the cost is 50 cents a year *per man*. Each fireman will receive one copy of VOLUNTEER FIREMEN, the monthly journal of the Volunteer Firemen's Section, mailed regularly to his home address. The company or department automatically becomes a member of the National Fire Protection Association and is entitled to full privileges of membership. All the literature regularly issued to N.F.P.A. members is mailed to headquarters of the company or department.

Membership may be applied for by one member of the company or department collecting 50 cents for each of the 20 or more members and making a single remittance for the group, or the company or department may take a membership for its men and make a single remittance from the company or department treasury.

Because of the large amount of material mailed to members, not less than $10.00 can be accepted from any company or department for membership dues.

Your Fires Keep My Hair Long

By Ellis Parker Butler

NOW and then you will see me with my hair so long it hangs down over my collar in the back, and I am wearing a tie that is all chewed up by the frequent insertion of my scarf-pin. I look like the last rose of summer on the way to the poor-house, and the reason is that my fire insurance costs me so much. It costs so much I can afford a hair-cut only once in two months and I have to wait until Christmas for a new tie.

The reason I have to pay such high fire insurance is because so many of you are careless with matches and cigarette butts. I have to pay for your fires, drat you! I have never had a fire and I expect never to have one. Years ago, about 1877, an aunt of mine had a fire in a basket of clothes she was about to iron, and she collected $2.14 insurance, and that is the only fire anyone in our family, male or female, has had in six generations. We steer clear of fire; probably one of us was burned at the stake in the old days and it taught us a lesson. Or maybe we are looking forward and feel that we will get all the fire we need later on.

I suppose our family has paid more in fire insurance since we first began paying fire insurance than our whole caboodle is worth today. That is because we usually own a $12,000 house with a $13,000 mortgage on it, but we have to carry $9,600 insurance on the house.

In 1870 the fire loss averaged $19 a minute, in 1926 it averages $1,084 a minute. That is fifty-six times as much as in 1870. If you keep on being as careless about fire in the same ratio, increasing fifty-six times every thirty-six years, the fire loss will be $57,420 per minute in 1982. I will be an old man then and I will come around and stick my toe in the ashes of your dwelling and say "I told you so!" Even $1,084 per minute is a lot of money; it is more than I earn even on my best days.

When I was a boy my aunt put my starched seersucker pants on me and sent me to Sunday school, and as the Mississippi River was on a rampage I walked down Sycamore Street to look at Pappoose Creek. As I passed Mulford & Cadel's sash and door factory a fellow who had stolen my sled the winter before was sitting under the loading platform among the shavings, smoking cigarettes. That was a devilish thing to do in those days, and I shuddered and went past quickly. The fire alarm sounded while I was in Sunday school and Mulford & Cadel's burned to the ground. The town lost an industry; the factory was never rebuilt.

Some years later, when the river was again high, I walked up past the Upper Saw-Mill to see the flooded area at Mad Creek. That day the Upper Saw-Mill burned, with acres of lumber piles, an enormous loss, a regular $1,084 per minute fire. The clay hillside above the plant was burned brick red and is so still, a third of a century or more later. The mill was never rebuilt; the town lost another industry.

The moral of this may be that I ought not be allowed to walk around and look at floods. It may be that people ought to be more careful with matches and cigar butts, but they won't be. I think the moral is that we should all keep flammable materials and liquids cleaned up and away from places where careless persons may set them afire. If this is done I shall be able to have my hair cut once a month and the world will be a more beautiful place, particularly in the neighborhood of the back of my neck.

Editor's Note

This novel but eloquent fire prevention message was printed in an N.F.P.A. QUARTERLY ten years ago. We are repeating it for our new and widespread audience—the volunteer firemen. We believe that it will be fully appreciated as a sparkling gem of fire prevention literature.

Making a Good Job of It

By Warren Kimball

In this column each month an experienced volunteer fireman discusses the handling of a typical fire. Readers are invited to describe fires which illustrate one or more principles of craftsmanlike fire fighting. (Names and places may be omitted.)

"WHEN shall we use our deluge set or wagon pipe?" is a question often in the minds of volunteer firemen. "We could have done good work if our chief had let us use the deluge set" is another remark frequently heard. Observations from actual fires will give some of the factors helpful in determining when heavy streams should be used.

The first fire occurred in a lumber yard during a cold winter night. A frame lumber shed 75 feet long was completely involved when the fire department arrived. Another shed across a 30-foot driveway was smoking, ready to burst into flame. "Two lines to the portable gun to make a water curtain, followed by a hand line. Don't break windows in the exposed shed," were the orders. This prompt attack held the fire to the one shed, although the front of the exposed shed was badly scorched.

The second fire, handled by a different department, recently occurred in a one-story wooden tire shop about 20 by 50 feet in size without near-by exposures. Fire was visible inside when the engine arrived. A line was run to the front door. Before water was obtained the chief arrived and ordered the line connected to a portable gun on the truck and called for a second line to the gun. Before the gun stream could be put into operation the fire extended to all parts of the shop causing almost a total loss. Had the hand line been used first the fire might have been quickly controlled and much fire and water damage avoided.

In using heavy streams firemen should consider, (1) The size of the building and the extent of the fire, (2) The need of protecting exposures, and (3) Whether the additional water loss is necessary. When there is a serious fire in a large building heavy streams should be used promptly, but as it takes time to get heavy streams started it may be wise to get water on the fire first with a hand line.

Don't Gamble with DEATH...
Use WEEDS and be Safe!
No one dreads a bad skid more than a fire truck driver. He would call it "bad practice" to be without tire chains on icy streets or hard packed snow. For private cars as well he will advise you to
Insist on WEED
American Bar-Reinforced
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● There are four fine reasons why WEED Americans are the most economical tire chains you can buy. 1. Bar-Reinforced Cross Chains. 2. Electric Welded Hardened Side Chains. 3. Lever-Lock End Hooks. 4. Weedalloy—the new tougher, harder, wear-resisting tire chain metal. That is why they are recommended by the better accessory stores, garages and service stations everywhere. They are a product of American Chain Company, Inc., Bridgeport, Conn.
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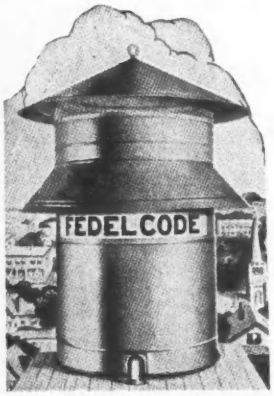
Can Be Heard for Miles
Calls Volunteers Instantly



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Approved by the National Board of Fire Underwriters.

Federal VERTICAL Sirens are most practical because

(1) They distribute sound in a wide range in all directions.
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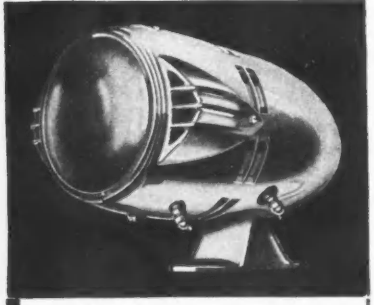
(3) Entirely weatherproof housing finished in Red Duco withstands sleet, rain, hail and dust storms.
(4) They are equipped with special high speed, ball bearing Federal Siren motors.

Write for Bulletin No. 55 for complete details.



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DOUBLE ACTION
SIREN
STREAMLINED
WITH FLASHING LIGHT AND A NEW TONE ROAR

CONSIDER THESE FEATURES:

- Streamlined beauty combined with rugged construction durability.
- A Siren Roar combined with Flashing Rays of Light.
- Greased sealed ball bearings aid ease of operation.
- Flashing light can be operated with siren roar or independently.
- FULLY chrome plated.
- Loudest by test . . . brightest warning light.

Write for Bulletin No. 55

FEDERAL ELECTRIC CO.
8717 So. State St. Chicago, Ill.

Can You Use Ten Dollars?

If You Can, Submit Your Story in Pyrene Letter Contest — Cash Prizes This Month

EACH month three firemen receive cash prizes in this contest sponsored cooperatively by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN. If you have never sent in a story in this contest you are missing a real opportunity for one of the prizes.

You don't have to be a good writer—just jot down in your own words how an extinguisher was used to save life or property from fire.

FIRST PRIZE — $10.00

H. B. MEGARGEL,
Volunteer Fire Co. No. 1,
Hammonton, N. J.

Man's Life Saved

"While driving a gasoline truck along a heavily traveled highway I came upon a touring car which had left the road, turned over, and pinned the driver underneath. Several cars had stopped and the occupants were desperately trying to extricate the man. However, the car was jammed in such a way as to make it impossible for them to move it.

"The battery wires had shorted and set fire to grease and upholstery. The flames were rapidly gaining headway. None of the cars which had stopped had any fire fighting equipment. I quickly grabbed the 1½-quart carbon tetrachloride extinguisher which is regular equipment of my truck. Directing the trapped man to cover his face, I soon had the fire out. My hand extinguisher had, no doubt, saved this man's life."

SECOND PRIZE — $3.00

BURTON TIFFANY,
Fire Department, Norwich, N. Y.

The Two-Job Extinguisher

"One Sunday afternoon we were called to a fire in the business section. We found smoke pouring out of the front and rear of a restaurant. It was a pot of grease which had boiled over and was sending flames to the ceiling and up the side walls.

"I grabbed our small carbon dioxide extinguisher which we had never used before. I broke the seal on my way in, and seeing my captain in a position to use it, I threw it to him. Within ten seconds after he turned the valve the fire was out. In addition to putting out the fire, the meat and potatoes where the extinguisher was used were still good to eat."

THIRD PRIZE — $2.00

G. D. PIERCE,
Fire Department, McPherson, Kan.

Extinguishers Worth $1000 Each

"One morning we received an alarm for a large one-stop service garage on Main Street. Upon arriving we found that an employee of the garage had been scrubbing the floor with kerosene. An arc from a nearby electric motor had set fire to the kerosene and also the motor. The garage was equipped with three 2½-gallon foam extinguishers. Thanks to these extinguishers, the fire was put out with no loss.

"Later that day the manager of the garage said that he would not take $1000 each for those extinguishers as that was the third time he had used them."

HONORABLE MENTION

H. LEE MCINTYRE, *Treasurer*,
A. E. Phelps Engine Co.,
Crown Point, N. Y.

E. W. TENCH,
Volunteer Fire Dept., Waterford, Ont.

CHARLES A. KORTE,
Fire Dept. Co. No. 1, Verona, N. J.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where any approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

The VITAGUARD Fire Alarm System

$4,000,000,000.00
Property Loss
100,000 Human Lives

The National Fire Loss for 10 years, 1926-1935 exceeded these figures.

Over 70% of the Fire Loss Occurred in Municipalities under 20,000 population.

THE regulations for the installation, maintenance and use of municipal fire alarm systems, as recommended by the National Fire Protection Association contain the following statement:

"It is generally recognized that there is no other thoroughly satisfactory means of sending and receiving fire alarms than an approved fire alarm telegraph system. Telephones should not be relied upon to replace needed boxes nor to supplement any inadequacy in number or location of boxes."

Fire Station Operating and Control Unit

Includes recording register, code signal transmitter, battery and charging equipment, testing and protection devices.

VITAGUARD
Street Signal Station

Provides protection against loss of alarms under disordered circuit conditions.

The salient features of the VITAGUARD Fire Alarm System are

Efficiency
Low Initial Cost
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Compactness
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Simplicity

A complete line of public alarm equipment including the unsurpassed Diaphone Horn is associated with the Vitaguard Fire Alarm System.

For information relative to this system address

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THE GAMEWELL COMPANY

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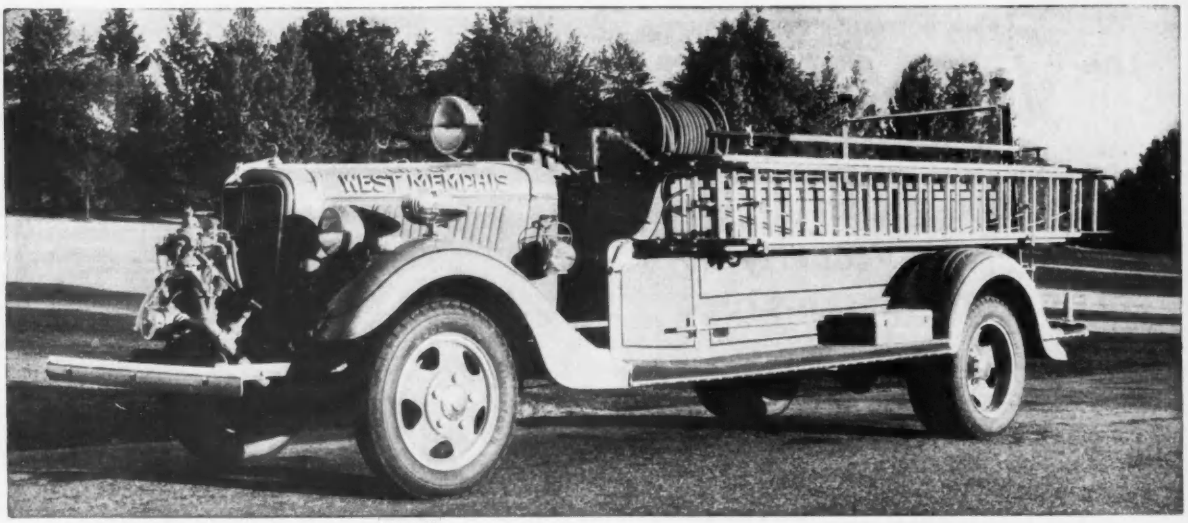


PLAN TO INCLUDE BETTER FIRE PROTECTION IN YOUR 1937 BUDGET

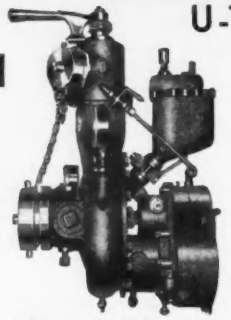
Now is the time when most cities, towns and villages are considering 1937 expenditures — making up annual budgets. An ideal time for you to get money appropriated for better fire apparatus—before that money is spent for less important things.

And thousands of Chiefs have found it easy to sell the "powers that be" on Barton Fire Pumps. Nor is it hard to understand why, for Barton Pumps enable you to have the FINEST, MOST DEPENDABLE of fire-pumping equipment, YET SAVE YOUR COMMUNITY HUNDREDS OF DOLLARS IN FIRST COST.

Real Economy With BARTON Pumps

First, because of simplified design, a Barton Centrifugal Pump costs MUCH LESS than other type apparatus. Second, because of Front-Mounting, a special expensive fire truck is NOT REQUIRED. Any size Barton Pump can be used on a standard truck and completely installed WITHOUT A SINGLE CHASSIS CHANGE—total cost but a few dollars for labor.

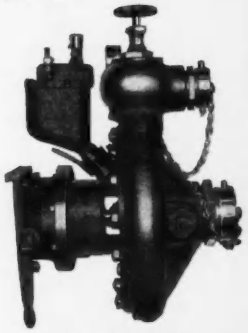
How can we best help you present this wonderful economy story to your community? Mail Coupon below and we will send you literature explaining Barton Pumps pretty thoroughly. Or would you prefer to have our nearest representative call and talk to your people? No obligation, of course.



U-Type, built in 350, 400, 500 and 600-gallon sizes.

U-TYPE—*Gear Drive*

Shown above is a Barton U-Type Fire Pump, Front-Mounted and ready for service. Every U-Type Pump is regularly equipped with BUILT-IN GEAR DRIVE which permits truck motor to operate at approximately ONE-HALF pump speed. With pump wide open and discharging against 250 pounds pressure, the motor loafs along under no strain. All sizes UNDERWRITERS' TESTED—all automatically primed. The finest centrifugal fire pumps on the market.



F-Type, built in 400, 500 and 600-gallon sizes.

F-TYPE—*Direct Drive—Low Price*

A recent development for towns and villages which require relatively large capacity pumpers but have only limited amount of money available. They incorporate every U-Type feature and refinement except Gear Drive. All sizes UNDERWRITERS' TESTED — all automatically primed.

Also smaller Barton Fire Pumps, both centrifugal and rotary, AT STILL LOWER PRICES.

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- ☐ Barton F-Type Fire Pumps, Bulletin 95
- ☐ Smaller Fire Pumps at still Lower Prices
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Records show that more than nine out of every ten accidents are sideswipes. Head-on accidents are the exception; sides-swipes the rule. A FRONT-MOUNTED BARTON FIRE PUMP IS OUT OF THE DANGER ZONE. With thousands of Barton Pumps in service, we know of only one ever damaged by collision. FRONT-MOUNTING = CONVENIENCE + ECONOMY + GREATER SAFETY.

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